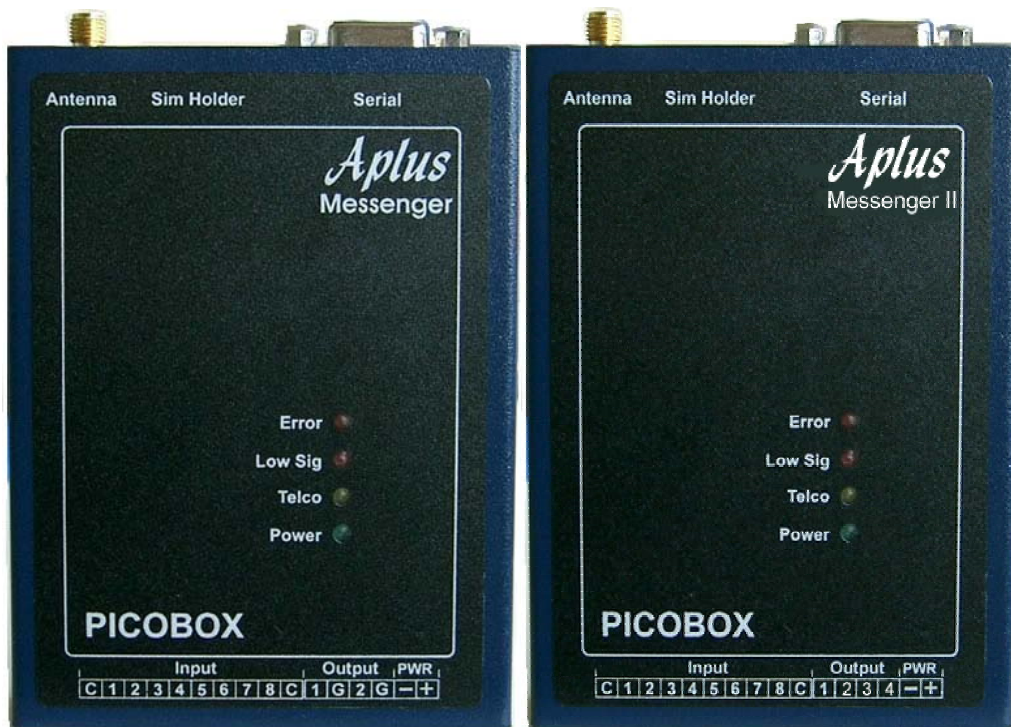




Aplus Messenger (AM900) Aplus Messenger II (AM910)

User's Manual Version 1.08



Important!

Please read this user manual carefully before using this equipment.

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Chapter 1 Package Contents

Please make sure you have the items, shown in figure 1-1, for the installation of Aplus Messenger. Contact your distributor if any items are missing. The actual items in your package may vary in appearance from the ones illustrated.



Figure 1.1

Contents included in this purchase.

Item	Descriptions	Model / Part No	Quantity
1	Aplus Messenger	AM900/AM910	1
2	Aplus Mounting Plate	S600-900	1
3	10way screw terminal block	A120-10	1
4	6way screw terminal block	A120-6	1
5	3mm Screw	S600-003	2
6	Power Adaptor	1PA1215	1
7	Adhesive Rubber Feet	R400-493	4
8	Screw Driver	S600-200	1
9	Serial Cable	100-2209	1
10	SMA Mount right angle unity gain antenna	AntR/A	1
11	User Manual in CD-ROM	A400-02	1
12	Warranty Card	A400-01	1



Chapter 2 Safe Use of equipment

The following section contains important operating and maintenance (servicing) instructions. Please read it carefully.

2.1 WARNINGS

2.1.1 TO REDUCE THE RISK OF ELECTRIC SHOCK:

- **DO NOT REMOVE THE COVER (OR BACK) OF THIS EQUIPMENT. THERE ARE NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**
- **DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE**

2.1.2 TO REDUCE THE RISK OF ELECTRIC SHOCK AND ELECTROMAGNETIC INTERFERENCE, USE ONLY RECOMMENDED ACCESSORIES.

2.2 NOTE

The serial number of this equipment is shown on the back of the product. You should record the number and other vital information here and retain this book as a permanent record of your purchase.

Model No.:

Serial No.:

Date of Purchase:

Dealer Purchased from:

Dealer Address:

Dealer Telephone No.:

2.3 IMPORTANT SAFETY INSTRUCTIONS

In these safety instructions, the word "equipment" refers to the Aplus Messenger and all its accessories.

Read Instructions – Read all the safety and operating instructions before operating the equipment.

2.3.1 Retain Instructions – Save the safety and operating instructions for future reference.

2.3.2 Heed Warnings – Heed all warnings on the equipment and in the operating instructions.

2.3.3 Follow Instructions – Follow all operating and maintenance instructions.

2.3.4 Cleaning – Unplug this equipment from the wall outlet before cleaning. Wipe the equipment with a clean soft cloth. If necessary, put a cloth in diluted neutral detergent and wring it well before wiping the equipment with it. Finally, clean the equipment with a clean dry cloth. Do not use benzene, thinner or other volatile liquids or pesticides as they may damage the product's finish. When using chemically treated cleaning cloths, observe their precautions accordingly.

2.3.5 Accessories – Use only accessories recommended in this manual. Always use specified connection cables. Be careful to connect devices correctly.

2.3.6 Water and Moisture (Hazard of electric shock) – Do not use the equipment near water or in rainy or moist situations.

2.3.7 Ambient Temperature – Do not put this equipment near a heater.

2.3.8 Placing or Moving – Do not place this equipment on an unstable cart, stand, tripod, bracket or table. The equipment may fall and cause serious damage to itself and serious injury to others. An equipment and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the equipment and cart combination to overturn.

- 2.3.9 Power Sources – The AC adapter should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your premises, consult your equipment dealer or local power company.
- 2.3.10 Power Cord Protection – Power cords should be routed so that they are not likely to be walked on, or pinched by items placed upon or against them. Pay particular attention to plugs and the point from which the cords exit the equipment.
- 2.3.11 Outdoor Antenna Grounding – If an outside antenna is connected to the equipment, be sure the antenna is grounded so as to provide some protection against voltage surges and built-up static charges.
- 2.3.12 Lightning – For added protection of this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, disconnect it from the wall outlet and disconnect the antenna. This will prevent damage to the equipment due to lightning and power-line surges.
- 2.3.13 Power Lines – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.
- 2.3.14 Overloading – Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- 2.3.15 Object and Liquid Entry – Never push objects of any kind into this equipment through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Be careful not to spill liquid of any kind onto the equipment.
- 2.3.16 Servicing – Do not attempt to service this equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified personnel. Opening the cover may void your warranty.
- 2.3.17 Do not install the equipment in the following locations as this can cause a fire or electric shock:
- Hot locations
 - Close to a fire
 - Very humid or dusty locations
 - Locations exposed to direct sunlight
 - Locations exposed to salt spray
 - Close to flammable solvents (alcohol, thinners, etc.)
- 2.3.18 If any of the following occurs, immediately switch the equipment OFF, unplug it from the mains power supply and contact your distributor or agent:
- The equipment emits any smoke, heat, abnormal noise, or unusual odour
 - A metal object falls into the equipment
 - The equipment is damaged in some way
- Do not continue to use the equipment as this can cause a fire or electric shock.

2.3.19 Please observe the following when using the equipment. Failure to do so can result in a fire or electric shock.

- Do not use flammable sprays near the equipment.
- Do not subject the equipment to strong impact.

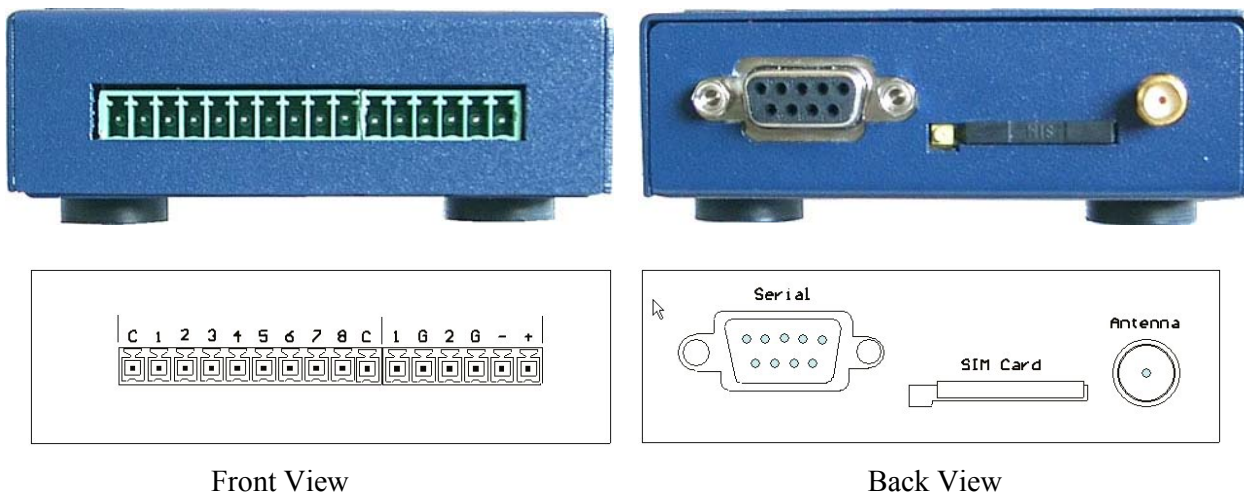
Chapter 3 Hardware Installation

Congratulations on your purchase of Aplus Messenger, a feature-packed GSM wireless messaging controller that serves wide-ranging monitoring and control application. Please read the instructions in this User Manual carefully before installing this equipment.

This section will guide you through the installation of your Aplus Messenger. Just follow the instructions here and you will have product installed very quickly.

Before starting installation, ensure that the unit is powered OFF and the power adapter plug disconnected from the rear of the unit.

3.1 Aplus Messenger Unit

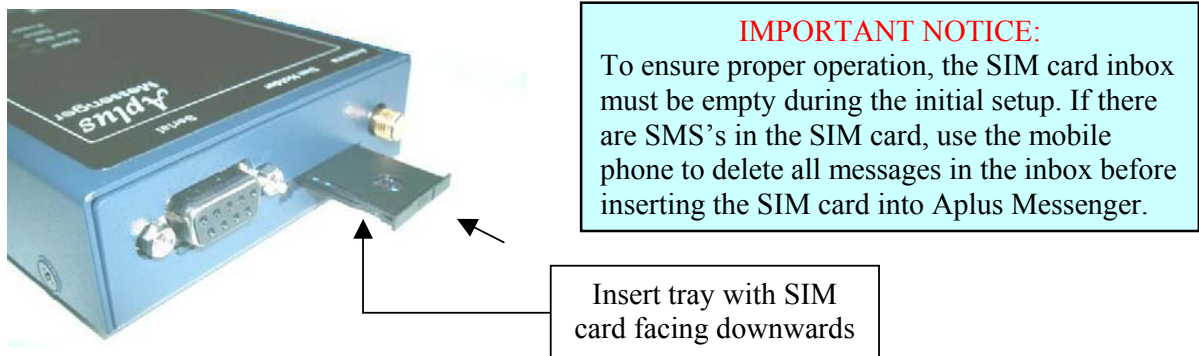


Step 1. Determine a suitable location for the installing of Aplus Messenger unit. In selecting a location, remember that you will need to connect the power adapter, connections to the equipments to be monitored and antenna. Follow carefully the instructions provided earlier in this manual on the safe use of this equipment.

Step 2. Insert a valid GSM mobile telephone SIM card into the SIM card socket slot on the rear panel of the Aplus Messenger.

- To insert the card, first eject the SIM card tray by pushing the yellow eject button. Do this using a small blunt tool. Example, paper clip or a Philips head screwdriver.

- Place the SIM card on the tray. Check that the SIM card is seated fully on the tray. Insert the tray into the holder. Ensure correct orientation. The SIM card in the SIM tray should be facing downwards.
- Position it horizontally and slide it in with a gentle force. If you experience tightness or friction when attempting to insert the tray, do not force it in. Check that the SIM card is sitting firmly on the tray.
- Slide it in all the way until you feel it touching the end. About 1mm of the SIM card tray will remain exposed to allow for its removal.



Step 3. Attach the antenna provided in the package onto the antenna socket on the rear panel. If an external antenna is required, contact your distributor for more information on external high gain antennae. **(Warning: Do not operate Aplus Messenger without an antenna installed. It may damage the unit.)**

Step 4. Wire the input/output connection between the equipment and Aplus Messenger using the supplied 3.8mm pluggable screw terminals provided. See Figure 1.1 (Package Contents)

3.2 Antenna

The antenna provided is a unity gain SMA connector type. This antenna will suffice for most locations. However, if Aplus Messenger is installed in location where signal strength is low (30% or lower) an external high gain antenna is recommended. Contact your distributor for more information on external high gain antennae.

3.3 Power Adapter

The power supply adapter is included in this product package. Screw the 2 wires to 6-ways pluggable screw terminals labelled +/- . Ensure the wires are in the correct positions and polarity then plug the adapter onto your AC wall outlet. Incorrect polarity may damage the equipment. Please ensure that the adaptor provided is have the correct AC input voltage and frequency for your country. If the adapter is not the correct type, contact your distributor for a replacement.

If you wish to use your own DC power supply for Aplus Messenger, its voltage/current rating should be:

DC voltage: 12 – 30V regulated
Current: 1.5Amps

Chapter 4 Interfacing to Equipment

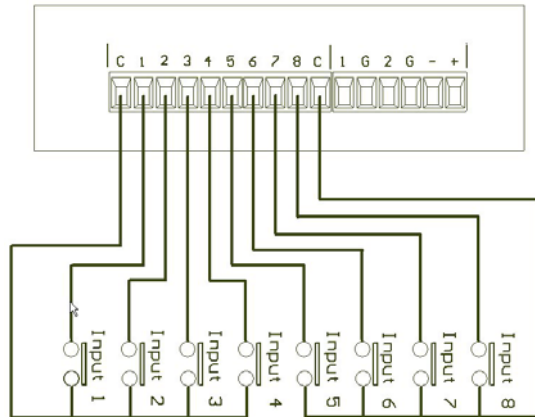


Figure 1 Input Interface

Figure 2 below shows how alarm inputs are wired to Aplus. Up to 8 dry contacts can be monitored simultaneously. The contacts shown are either relay contact or switches from within the equipment. Cabling distance of up to 50 meters between the equipment and Aplus is possible without causing false triggering. In noisy environment, shielded cables are recommended. Unused inputs can be left unconnected.

Interfacing to output loads

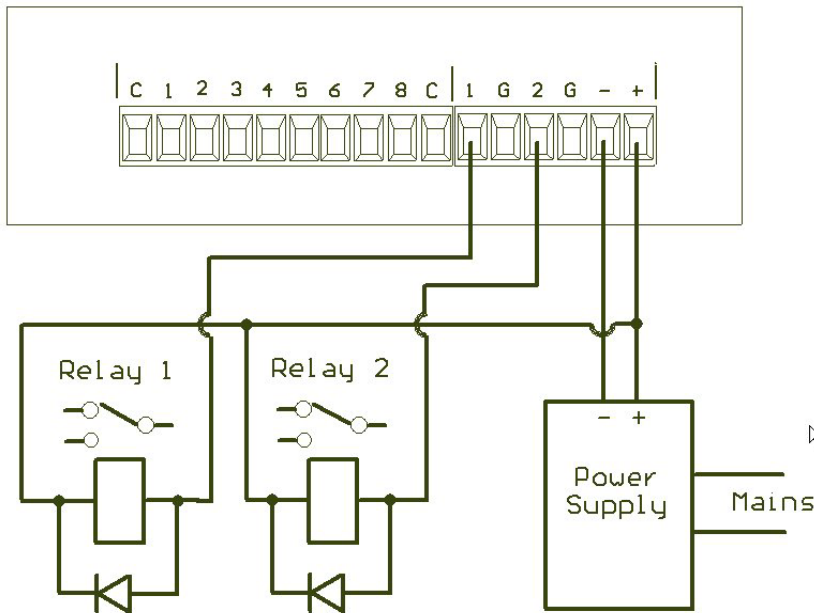


Figure 2 Output and power supply interface

Figure 2 shows the power supply connection to Aplus and output connected to 2 relays. Observe the polarity of the power supply connection. Wrong polarity can damage the Aplus unit. Aplus can accept DC input from 12-30 Volts. The relay to be driven by the output driver of Aplus must match the supply voltage. That is, if the DC supply voltage is 12 volts, then the relay used must have a coil rating of 12 volts also. Always have a diode soldered across the relay coil to prevent back EMF from damaging the output drivers of Aplus.

Alternative load interfacing

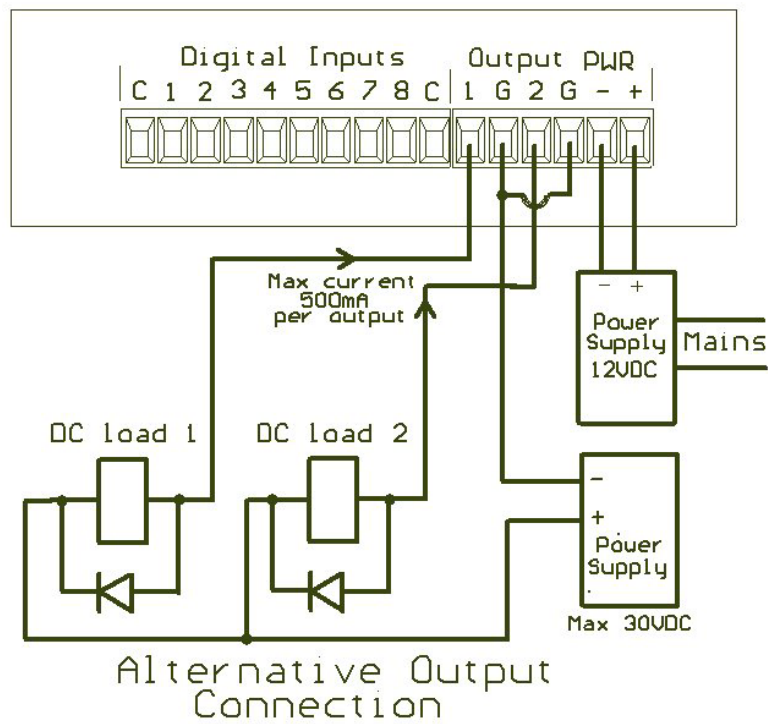


Figure 3 Alternative Output Connections

Aplus is also capable of driving low power loads directly without using relay interface. The output driver is an open-collector transistor; each can sink up to 500mA of load current. Maximum handling voltage is 30 VDC. Always connect a diode across the load to protect the transistor from damage due to back EMF, especially inductive loads. Recommended diode part number: 1N4004 or equivalent.

Aplus Messenger II (4 outputs with pusle function)

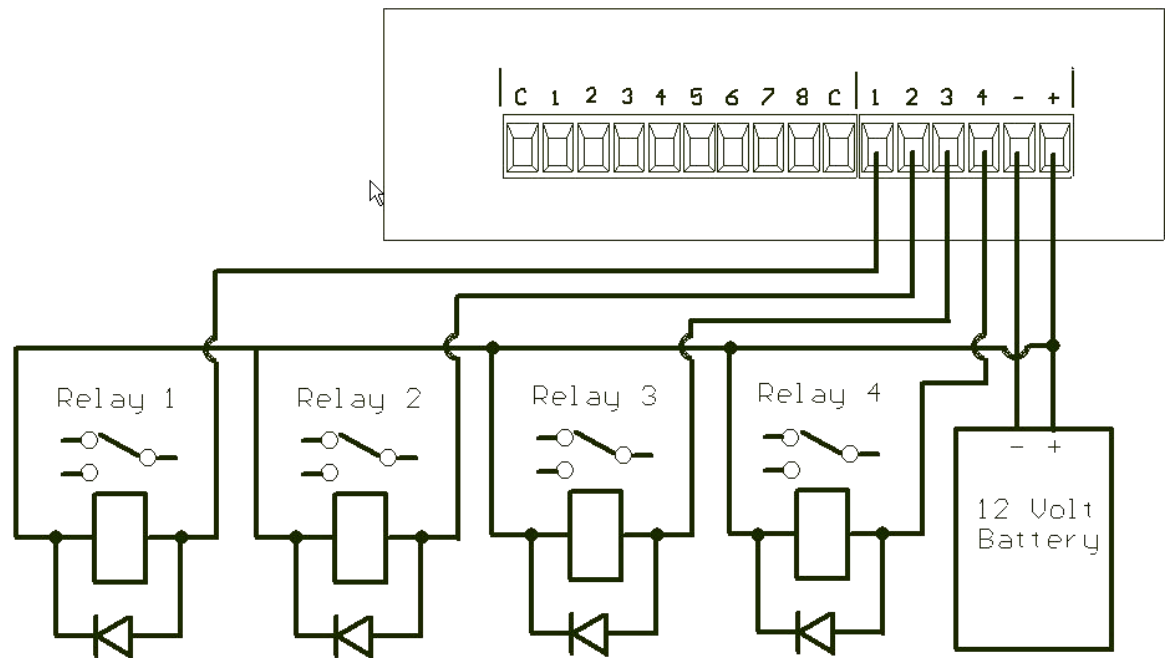


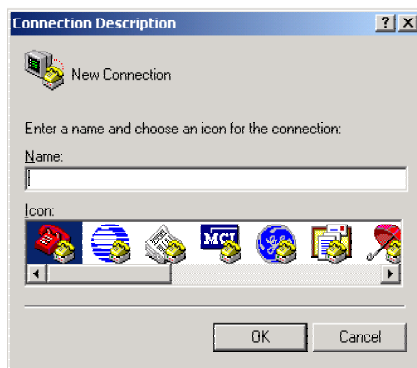
Figure 4 (Aplus Messenger II. 4 outputs with pulse function)

Chapter 5 Software Configuration

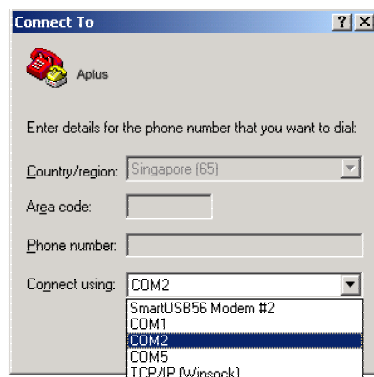
Configuration of messages, phone groups etc are done via the serial console port. See hardware configuration section for detail. The connecting computer must have a RS232 serial port and have an installed terminal emulator program running. Example: Microsoft® HyperTerminal™, Teraterm™, etc.



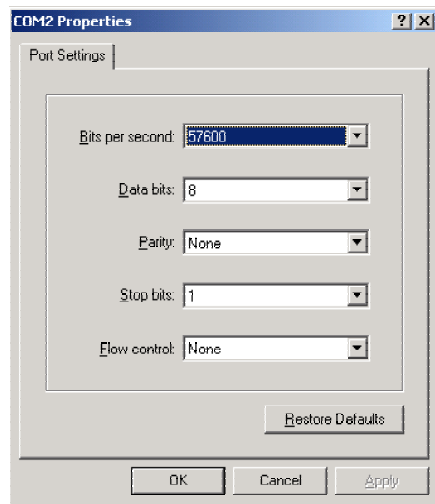
Click on Start, program, accessories, communication then HyperTerminal. Click on Hyper Terminal and the above icon will be show. Wait for it to load.



Input a name for Aplus Messenger and select an Icon. Click OK



Select the correct COM port that connects to Aplus.



Set the communication settings to 57600,8,N,1 (57600 bps, 8 data bits, No parity, 1 stop bit) and no flow control.

Click OK and the login menu will appear on the PC terminal window.

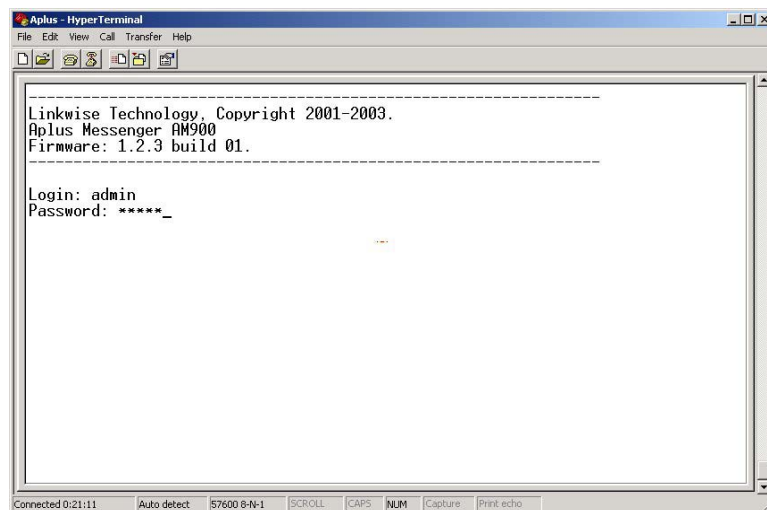


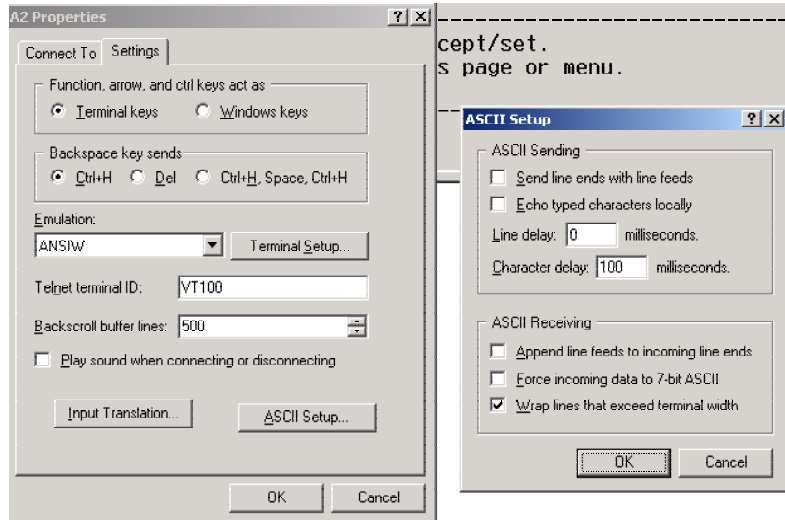


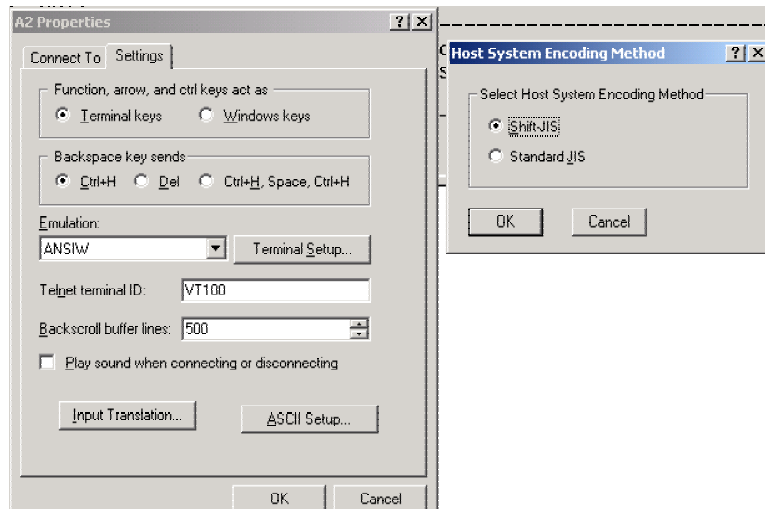
Figure 3 Login Screen

Enter Login name and password. Default login/password is admin/Admin.
Login and password can be changed using the System Admin sub-menu.

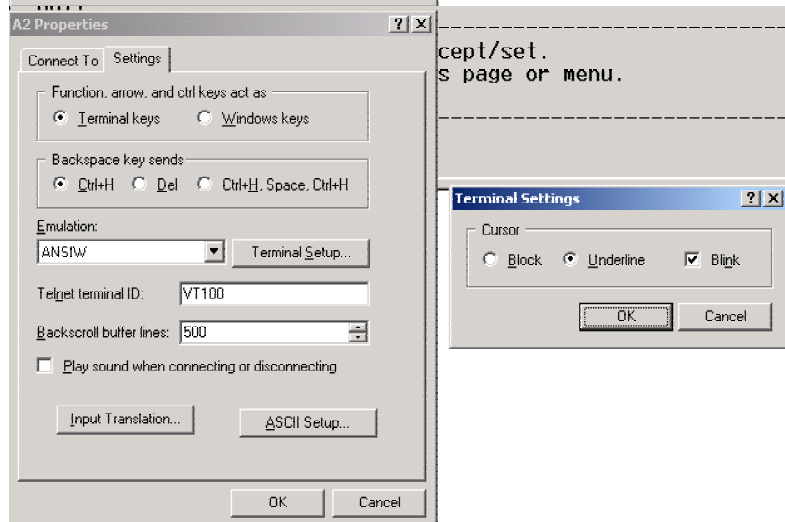
If you are unable to login in or the screen show something else then the above login page. Click on the icon to disconnect  then click on  to set the following:



Click on ASCII Setup the pop up menu “ASCII Setup” will be as shown. Check for the correct setting.



Click on Input Translation the pop up menu “Host System Encoding Method” will be as shown. Check for the correct setting.



Click on Terminal Setting the pop up menu “Terminal Settings” will be as shown. Check the correct setting.

After checking the above setting. Click on  to connect the Aplus Messenger.

Enter Login name and password. Default login/password is admin/Admin.
Login and password can be changed using the System Admin sub-menu.

If the login is successful, the Main Menu page will appear.

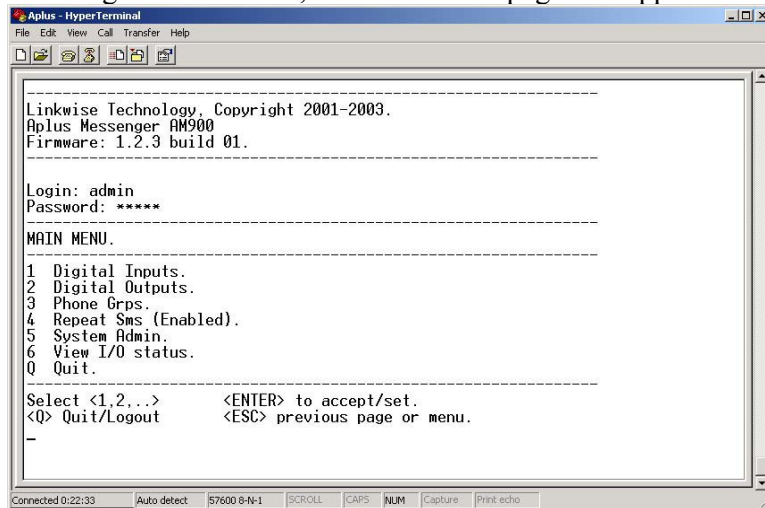


Figure 4 Main Menu

5.1 Menu Structure

The Main Menu provides access to various settings and functions. The Menu is designed for easy navigation with help texts along the different levels of menus and sub-menus. [ESC], [ENTER], [Numbers] and [Q] keys provide the primary navigation between various menus and configuration screens. The software also traps illegal entries. Alerts prompts user of an entry error.

The detailed description are as follows:-

5.2 Digital Inputs.

This menu contains a sub-menu with 2 functions choices.

1. Input description
2. Input state definition.

Input description allows the user to create meaningful description to the inputs (up to 8) to be monitored. Each input can have up to 40 alphanumeric characters.

Input state definition is for defining the state of each input. A digital input can assume 2 states. Contact open and contact close. Depending on the equipment to be monitored, an open or close contact will have different meaning.

For example,

- ◆ Open / close ◆ Alarm / Normal ◆ On/Off ◆ Activated /Deactivated
- ◆ High / Low ◆ etc.

You can define whether you would like to receive the SMS alert, by leaving the input state definition blank for either contact close or contact open. Please note that at least one contact (open or close) must have an input state definition to receive SMS alert. **If both are empty no SMS alert will be sent.**

```
Select <1,2,...,M>    <ENTER> to accept/set.
<Q> Quit/Logout      <ESC> previous page or menu.
5
```

```
-----
Modify input state definition (max 20 characters).
-----
```

```
Add/Edit contact open state of input #5>
Add/Edit contact close state of input #5> Activated
-----
```

CURRENT INPUT STATE DEFINITION.

Input #	Contact opens	Contact closes
1	Normal	Faulty
2		Stop
3	Running	Stop
4	Normal	Faulty
5		Activated
6		
7		
8		

```
-----
Select <1,2,...,M>    <ENTER> to accept/set.
<Q> Quit/Logout      <ESC> previous page or menu.
_
```

For example, referring to figure above, Alarm 2 has *Contact opens without input state definition and contact closes had an input state definition as Stop*. When the contact for Alarm 2 closes, SMS alert will be sent. When the contact for Alarm 2 opens, **no** SMS alert will be sent.

5.3 Digital Outputs

Aplus has 2** numbers of open-drain outputs for turning on and off any low voltage devices such as relays, lights, fans, etc. Each output can sink up to 500mA, 24V loads. See hardware section. Up to 15 alphanumeric characters, (white spaces included) can be assigned to each output. (**Aplus Messenger II has 4 digital outputs)

Operation and forward mobile phone numbers can send SMS to Aplus to On/Off the digital outputs.

5.4 Phone Groups

There are 3 classes of phone groups, each with a specific purpose to each

- Operation
- Forward
- Authorizer

Operation numbers are those that will receive alarm SMS when one or more digital inputs are activated (open → close, close → open). Up to 6 mobile phone numbers can be assigned to the operation group. Phone numbers of up to 20 numbers and (+) are valid formats. Example +6598989898, 90012345

Forward – This number (if assigned) will receive alarm SMS like the operation numbers. Any incoming SMS to Aplus will also be forwarded to this number as well. This is a very useful feature where an organization wishes to have a central logging of all activities (alarms, in-out SMS) of Aplus Messenger. When many Aplus are deployed in the field, the usefulness becomes more evident.

WARNING:

Never set the forward mobile phone number to be the same as the SIM card number in Aplus Messenger.
This will cause the device to send no-ending SMS to itself

Authorizer. Up to 2 mobile phone numbers can be assigned to this group. These numbers are authorized to remotely query, add, edit and delete any phone group numbers in the 3 groups using SMS commands. See remote command table for detail. The authorizer can also delete or change its number. Caution has to be exercised. Once the authorizer removed his number, he can no longer perform any of the authorizer functions.

5.5 Repeat SMS

This feature, when enabled will send the alarm SMS repeatedly to the operation and forward mobile phones. The repeat interval can be set between 2-30 minutes. To cancel repeat SMS, anyone from the operation or forward number must send a command #ACK to Aplus. Aplus, upon receiving the #ACK command will cancel the repeat SMS alarm. If any new alarms is triggered after receipt of #ACK command, the new alarms will be send repeatedly until a new #ACK is received.

5.6 System Admin

The admin sub-menu allows the user to Change/Edit the Device ID, Date/time, Mobile Pin, Login ID and login Password.

Device ID – This ID gives the Aplus unit an identity in the form of a description. This information will be sent along with the alarm SMS. It helps the recipients to more easily identify the name or location of the installation where the alarm is triggered.

Date/Time – The internal battery backed realtime clock keeps track of the alarm time as it happens. The date time information is also sent along with the SMS message.

Mobile pin – The user can opt to lock the SIM card to prevent unauthorized use of the SIM card. To enable to pin lock feature, place the SIM card on any mobile phone and use the phone function to lock the card. (Refer to the phone manufacturer user manual for instruction) On the Aplus System Admin sub menu, supply the same lock code as you have set using the mobile phone. Place the SIM card back to Aplus. Refer to the section on SIM card insertion for detail)

Login ID – Allow the user or system administrator the change the default ID (admin) to a different name (up to 8 alphanumeric characters)

Login Password - Allow the user or system administrator the change the default password (Admin) to a different name (up to 8 alphanumeric characters)

CAUTION: Record the new Login ID and password and safe keep the information for future reference. DO NOT FORGET THIS INFORMATION. If the login ID and/or password are forgotten, there is no way to access Aplus Menus. You have to refer to your distributor for assistance to reset your Login ID and password to factory default.

5.7 View IO Status

This screen allows the user to view the Input and output description and its corresponding current status. The Telco information and signal strength is also shown on this screen. To refresh the View IO screen, press the [ENTER] key.

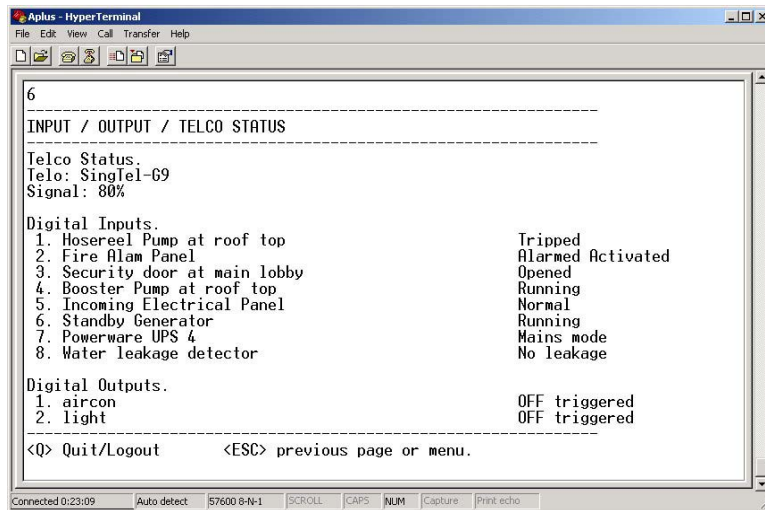


Figure 5 IO Status from Aplus Messenger

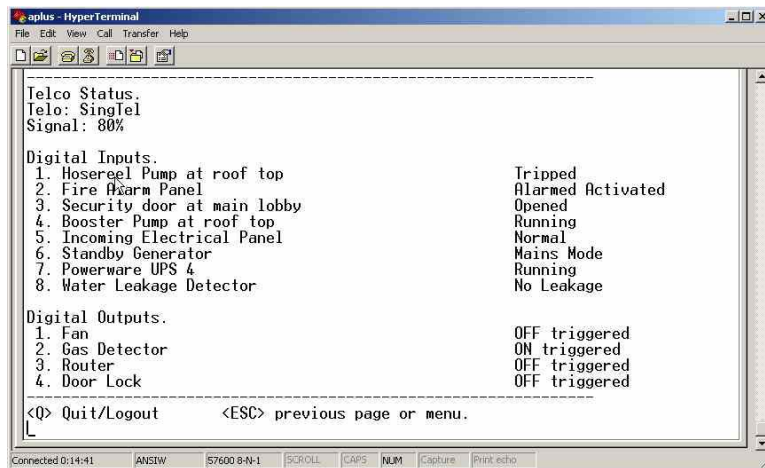


Figure 5a IO Status from Aplus Messenger II

5.8 Quit

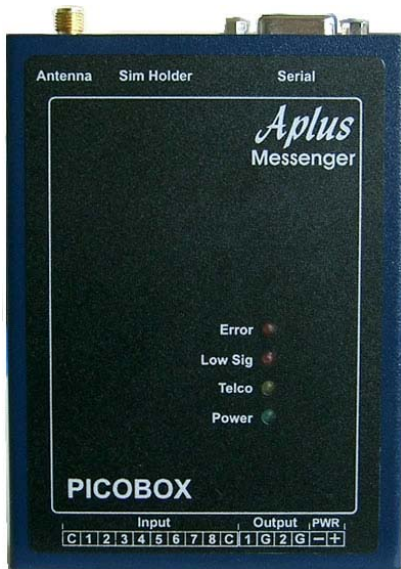
This option quits and logs out the Menu function. Once the user logs out, the usual login ID and password is required to access the Menus. Always remember to logout at the end of each session to prevent any unauthorized user to access the pages.

After completion of all the required settings, logout and disconnect power from Aplus Messenger. Unplug the serial cable, re-apply power to re-initialize the device.

Chapter 6 System Operation

Once the hardware installation and software configuration are done, Aplus is ready for operation.

The picture below shows the top view of Aplus Messenger. Four LED indicators provide visual display of the status during operation.



Power	The green LED will lit when power is applied to the unit
Telco	Amber LED indicate the Telco network status When blinking 0.5s on 0.5s off, Aplus is searching for available Telco network. When flashing 0.2s on, 0.8s off, Aplus is registered to a Telco network
Low Sig	If the received RF signal strength is below 30%, this red LED will light up. If SIM card is not inserted, this LED will also lit.
Error	If SIM card is not present or card is locked, this red LED will turn on. If SIM card is present and is locked, configure the SIM unlock code via the serial console port (Refer to software configuration section)

After applying power to Aplus messenger, the green Power LED and the Low Sig LED will light up. After a few seconds the amber Telco LED will start to blink (0.5s on, 0.5s off). This rate of blinking indicates that Aplus is searching for a valid Telco network. When it succeeds logging onto a network, the Telco LED will flash (0.2s on, 0.8s off). If the received Telco signal strength is high enough (>30%), the Low Sig LED will turn off.

Under normal condition, the Error LED should be off. If lighted, it indicates either:

- SIM card is not present, or
- The card is locked and the mobile pin code is not supplied or wrongly entered. Refer to software configuration section on entering mobile pin code.

Low Sig LED with lighted, suggests that the signal strength is too low for reliable SMS operation. If this happens, either relocate Aplus to a nearby location where the RF reception is better, or if relocating is not possible or practical, use an external high gain antenna. Contact your distributor for a suitable recommendation to your situation.

6.1 Alarm Triggering

An alarm event happens when any one or more digital input changes state. Aplus continuously monitor the input for these events.

When an alarm event occurs, it picks up information from the configuration memory and performs the necessary SMS actions. In such an event, all mobile phone numbers stored in the memory will be SMS to.

The format of the message is

[Date/Time] [Device ID] [Input description] → [Status]

Date/Time is the time the alarm event occurs. The realtime clock within Aplus provides the time stamping information.

Device ID – the identity assigned by the user during software configuration

The user defines input description and status during software configuration. Each digital input will have its own unique input description name and status text.

Example of an SMS alarm message:

25/07/03 14:39> (Aplus Messenger) Fire hose reel pump at basement 2 → Tripped

Up to 6 mobile phones can be alerted to. This group of phone numbers is known as operation phones. Additionally, if a forward phone number is specified, it will receive the alarm notification as well.

6.2 Repeat SMS

If enabled, when an alarm is triggered, the SMS will be sent repeated to the operation and forward group repeated at the interval specified during software configuration. (2-30mins). To cancel repeat sending, any mobile phone from the operation or forward must acknowledge to Aplus by replying the acknowledge command (**#ack**). The command is not case sensitive. **#ack**, **#ACK**, **#Ack** are valid strings. Aplus upon receipt of the acknowledge command stop sending further SMS to this alarm.

If multiple alarms are triggered, only the first one will be repeated. Subsequent alarms are sent once. This is to prevent the recipients from unnecessary annoyance. It also saves on SMS costs.

After the alarm or alarms is acknowledged, new alarms triggered will be sent and repeated until the next **#ACK** command is received by Aplus.

6.3 System Check

Authorized** mobile phone group can perform system check by sending a **?syscheck** command to Aplus, If Aplus is switched on, or working normally, it will reply to the querying mobile phone with [Date/Time] [Device ID] [Telco name] → [Signal level], Example

25/07/03 14:39> (Aplus Messenger) SingTel-G9 → 90%

Forward mobile number, if specified will receive 2 messages from this action

- 1) ?syscheck from the querying mobile phone
- 2) reply from Aplus to the querying mobile phone.

** refer to remote command section to see which group is allowed to perform a given set of query or set command.

6.4 Querying input and output status

Authorized groups can also query the status of an input or output. This is a very useful feature to determine the present status of an input or output. The enquirer need not wait for an alarm to happen in order to receive the given I/O status.

Refer to Remote command section of this user manual for detail.

6.5 Turning on / off devices remotely

Authorized users can send a SMS command to trigger on / off or plulse the digital output of Aplus. Aplus, upon receiving the command, will perform the instructed action. After the on or off action is done, it will send a reply to the querying mobile phone as an acknowledgement. There are 2 digital outputs that can be independently controlled. (Aplus Messenger II has 4 digital outputs)

The forward group, if specified will be notified as well.

6.6 Remote Editing of mobile phone numbers

Aplus has a feature to allow users to remotely add, change or delete any mobile phone numbers in Aplus memory.

Re-assigning of operation personnel, a change of mobile phone number is also common. Rather than having to physically go to the installation site with a notebook computer, the authorized personnel can perform the change from anywhere using their mobile phone. Where there are many installed sites, this feature saves time and effort.

For details of how this can be done, refer to Remote command section in this manual.

Chapter 7 Remote Command

Aplus Messenger allows a number of important functions to be accessed and controlled remotely via SMS by the listed and authorized mobile phones. For example, an authorized person can perform query and changing of Operation, forward and Authorizer mobile phone numbers stored in the unit's memory. Operation users can query the status of Inputs/outputs and perform system checks.

The commands are easy to use and remember. Two important arguments are used in conjunction with the action commands. [?] Is a query and [#] is a set argument.

Example: ?ROP is to a query to Read Operation Phone
#WOP is to set a Write Operation Phone

The three categories of users (operation, forward, authorizer) have specific rights in the use of various remote control functions. Table 1 summarize each function and rights.

Action	Command	Operation	Forward	Authorizer
Query Input status	?IP x x = the Input number (1-8)	X	X	
Query Output status	?OP x x = the Output number (1-2)	X	X	
Acknowledge an alarm	#ACK	X	X	
System Check	?SYSCHECK	X	X	
Turn on an output	#ON outname outname = Output description	X	X	
Turn off an output	#OFF outname outname = Output description	X	X	
To pulse an output	#PS outname outname = Output description	X	X	
Query Operation numbers	?ROP			X
Add, Edit, Delete Operation number	#WOP x num x = position of mobile phone number (1-6) num = mobile phone number			X
Query Forward number	?RFP			X
Add, Edit, Delete Forward number	#WFP 1 num num = mobile phone number			X
Query Authorizer number	?RAP			X
Add, Edit, Delete Authorizer number	#WAP x num x = position of mobile phone number (1-2) num = mobile phone number			X

Table 1

Detailed command set

Command	Respond from Aplus Messenger
?IP x Query an input status Example: ?IP4	[Date Time] [Device ID] IP4= [Input description] → [Status] Eg: 23/01/2003 15:05 (Aplus Messenger) IP4= Fire Panel at zone 2 → Alarm activated
?OP x Query an output status Example: ?OP1	[Date Time] [Device ID] OP1= [Input description] → [Status] Eg: 23/01/2003 15:05 (Aplus Messenger) OP1= Aircon → On Triggered
#ACK	This command cancels the repeat SMS sending, no respond from Aplus
?SYSCHECK	[Date Time] [Device ID] IP4= [Telco ID] → [Signal Strength] Eg: 23/01/2003 15:05 (Aplus Messenger) STARHUB-G9 → 77%
#ON Outname Example #ON Aircon	[Date Time] [Device ID] [Outname] → [Action] Eg: 23/01/2003 15:05 (Aplus Messenger) Aircon → ON Triggered
#OFF Outname Example #OFF Light	[Date Time] [Device ID] [Outname] → [Action] Eg: 23/01/2003 15:05 (Aplus Messenger) Lifht → OFF Triggered
#PS Outname Example #PS UPS	[Date Time] [Device ID] [Outname] → [Action] Eg: 23/01/2003 15:05 (Aplus Messenger) UPS → PULSED
?ROP	[Date Time] [Device ID] ROP num1,num2,num3,num4,num5,num6 Eg: 23/01/2003 15:05 (Aplus Messenger) ROP +659849403, +601873737,0,97858965,0,0 0=no mobile phone number on that location
#WOP x num Eg: #WOP 4 +6598989858 Eg: #WOP 4 +659e989858	[Date Time] [Device ID] WOP x num –OK/Err- [Date Time] [Device ID] WOP 4 +6598989858 –OK- [Date Time] [Device ID] WOP 4 +659e989858 –Err- (phone number has error)
?RFP	[Date Time] [Device ID] RFP num Eg: 23/01/2003 15:05 (Aplus Messenger) RFP +659849409 0=no mobile phone number on that location
#WFP 1 num Eg: #WFP 1 +659849409 Eg: #WFP 1 +65984g409	[Date Time] [Device ID] RFP num –OK/Err- Eg: 23/01/2003 15:05 (Aplus Messenger) WFP +659849409-Ok- Eg: 23/01/2003 15:05 (Aplus Messenger) WFP +65984g409-Err- (phone number has error)
?RAP	[Date Time] [Device ID] RAP num1,num2 Eg: 23/01/2003 15:05 (Aplus Messenger) RAP +659849403,985698982 0=no mobile phone number on that location
#WAP x num Eg: #WAP 2 +6012345678	Date Time] [Device ID] WFP x num –OK/Err- Eg: 23/01/2003 15:05 (Aplus Messenger) WAP 2 +6012345678 –OK-

Note: If a command sent to Aplus does not match the required format or is invalid, Aplus will not respond to the querying mobile phone and no action is taken by it. Similarly, if any unauthorized mobile phones try to query a status or to do a set command, it will also not respond to that mobile phone.

If a Forward mobile phone is specified, all incoming SMS, either correct or invalid commands as well as any other SMS messages from any mobile phones will be forwarded to this number for logging. This function is in effect serves as a remote event logger.

WARNING:

Never set the forward mobile phone number to be the same as the SIM card number in Aplus Messenger.

This will cause the device to send no-ending SMS to itself

Chapter 8 Specifications

Item	Description
Model	AM 900 / AM910
Operating Voltage	9-30VDC, 2W
No of Inputs	8 Digital protected Inputs, Volt-free / dry contact
No of Outputs	2 current sink outputs - 500mA per output (Aplus Messenger) 4 current sink outputs - 500mA per output (Aplus Messenger II)
Communication Port	Serial Terminal Emulator
GSM Modem	Dual Band GSM 900/1800 Mhz Class (2W at 900MHz) Class 1 (1W at 1800 MHz)
Humidity	0-90% non-condensing
Operating Temperature	0 to 55 degree Celsius
Physical size	82 (L) x 25 (H) x 110 (D) mm
Weight	345 gm
Security Features	Password protected access and phone number checks
Real Time Clock	Date time with battery backup
System Health Check	Remote health check feature via SMS
Indicators	Power, Telco Network, Signal Low, Other error
Repeat SMS of alarms	User configurable
IO Interface	3.8mm pitch pluggable screw terminal block
Remote event log	Yes

Optional Accessories

These accessories are our effort to serve you better. You would be able to purchase it from your distributor of our products.



External Battery
Model: BAT7
External Battery Backup power supply unit
12V-7AH

Ideal for power failure backup



External antenna
Model: Ant3db3M
3db Dual Band External Antenna



Power Rail
Model: A-194PR
19" 4 way Power Rail